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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,199	08/22/2001	Tejas B. Desai	2000P07837US01	8756
24500	7590	09/20/2005	EXAMINER	
SIEMENS CORPORATION INTELLECTUAL PROPERTY LAW DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830			LEE, BENJAMIN C	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/935,199

Applicant(s)

DESAI ET AL.

Examiner

Benjamin C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/10/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6, 9-12, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 9-12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**Response To Amendment**

**Claim Status**

1. Claims 1-4, 6, 9-12 and 14-15 are pending.

**NOTE**

2. Preliminary Amendment filed 5/12/03 which was filed after the mailing of the First Office action was not timely posted in eDAN at the time of the First Office action. As a result, the First Office action did not include consideration of such amendment, as indicated by Applicant. The current Office action is non-final as a result.

***Claim Rejections - 35 USC § 103***

3. Claims 1-4, 9-12 and 15 are rejected under 35 U.S.C. 103(a) as being obvious over Ghabra et al. (US pat. #6,420,967) in view of Schuermann (US pat. #5,451,958).

1) Regarding claims 1-4 and 9-12, Ghabra et al. discloses:

a) the claimed remote signaling receiver system (Figs. 1-2) comprising: a first transmitter device (22 or 26) that generates at least a first wireless communication signal (24 or 28); a second transmitter device (16) that generates at least a second wireless communication signal (18); and a receiver (34) that receives the first and second signals, the receiver including a first demodulator ("RSSI", "50" and "52" of Fig. 2 and col. 6, lines 48-50) for processing the first signal and a second demodulator ("FSK" of Fig. 2 and col. 6, lines 44-48) for processing the second signal;

except:

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b) specifying the claimed wherein the receiver is programmed to process all received signals using one of the demodulators and only when a received signal is not discernable from an output of the one demodulator to process the received signal using the other demodulator.

Ghabra et al. discloses that the receiver 34 receives the at least 2 signals as inputs for processing by the FSK demodulator and ASK demodulator without specifying any particular order or conditional sequence, while Schuermann teaches in the same art of a common RF receiver for demodulating both FSK signals and ASK signals (dual standard RF communication system) in which the receiver is programmed to process all received signals using one of the demodulators (FSK in Fig. 2a) and only when a received signal is not discernable from an output of the one demodulator ("Signal Log-Detect 32" output in Fig. 2a whereby 32 is part of the FSK demodulator 58 for providing an output externally to the ASK demodulator so that "Signal Log-Detect 32" output is an output of the FSK demodulator 58) to process the received signal using the other demodulator (Fig. 2a and col. 4, lines 43-60 whereby if FSK signal is not present by examining the output of the "Signal Log-Detect 32" output to determine its absence thereby not discernable as an FSK signal, then a switch is made to processing using ASK).

In view of the teachings by Ghabra et al. and Schuermann, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the multiple-demodulation receiver function of Ghabra et al. using a known method taught by Schuermann in order to generate the output of the multiple-demodulation receiver based on an input signal that can be any of first and second signal types.

2) Regarding claim 2, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the second (transmitter) device and

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the receiver are supported on a vehicle (tire transmitter 16 mounted on tire of vehicle; receiver 34 mounted on vehicle in Ghabra et al.) and the second signal (tire condition parameter signal 18 of Ghabra et al.) provides information regarding a condition of a selected vehicle component.

3) Regarding claim 3, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 2, including: the claimed wherein the second device includes a tire condition sensor (12 of Ghabra et al.) and the second signal (18 of Ghabra et al.) provides information regarding at least one condition of at least one of the vehicle tires selected from the group of tire pressure, tire temperature, tire thickness and acceleration (col. 4, lines 37-42 of Ghabra et al.).

4) Regarding claim 4, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 1, including: the claimed wherein the first transmitter device is a portable keyless entry signaling device (22 of Ghabra et al.), the first demodulator is an ASK demodulator (col. 6, lines 37-38 and 48-50 of Ghabra et al.) and the second demodulator is a demodulator that is not affected by amplitude modulation on the second signal (inherent of FSK of col. 6, lines 35-37-44-47 of Ghabra et al.: Frequency Shift Keying is not affected by Amplitude Shift Keying modulations).

5) Regarding claims 9 and 11-12, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in the consideration of claim 1, including the following met by Ghabra et al.:

-- the claimed vehicle remote keyless entry system (20, 44 of Fig. 1) comprising: a portable transmitter (22) that generates a wireless communication signal (24); at least one sensor device (12) supported relative to a component (tire 14) on the vehicle that senses a condition of

the component and generates a wireless communication signal (18); and a receiver (34) supported on the vehicle that receives the transmitter signal (24) and the sensor signal (18), the receiver including a first ASK demodulator ("RSSI", "50" and "52" of Fig. 2 and col. 6, lines 48-50) for processing the transmitter signal and a second FSK demodulator that is not sensitive to amplitude modulation ("FSK" of Fig. 2 and col. 6, lines 44-48) for processing the sensor signal.

6) Regarding claim 10, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 9, including: the claimed wherein the sensor device includes a tire condition sensor and the sensor signal provides information regarding a condition of at least one vehicle tire (col. 4, lines 37-42 of Ghabra et al.).

7) Regarding claim 15: Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 9, except: the claimed wherein the receiver includes a microprocessor that is programmed to receive the transmitter signal on a first channel and the sensor signal on an image channel.

Ghabra et al. discloses using a microprocessor with the receiver and programmed to control the operation of the receiver and its multiple-input, multiple-output demodulation function/operations (Figs. 1-2 and col. 6, line 25 and col. 8, line 54). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the multiple-input and multiple demodulation operations of the microprocessor that separately demodulating/processing the transmitter signal and the sensor signal in a system such as taught by Ghabra et al. and Schuermann by a multiple-channel processing architecture such that the receiver includes a microprocessor that is programmed to receive the transmitter signal on a first

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channel and the sensor signal on an image channel, since multiple-channel processing is designed to do just various such multiple-input and multiple demodulation operations.

4. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghabra et al. in view of Schuermann, and further in view of Shuey et al. (US pat. #5,874,904).

1) Regarding claim 6, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 1, except: specifying the claimed wherein the first transmitter device signal has a first baud rate and the second transmitter device signal has a second baud rate that is at least two times higher than the first baud rate.

Ghabra et al. teaches using ASK modulation in first transmitter signal for transmitting a simple actuation command signal, and FSK modulation in the second (sensor) transmitter signal for transmitting tire parameter data signal without specifying the respective baud rates. Shuey et al. teaches that the relatively more robust FSK supports at least two times higher baud rate than ASK (col. 2, lines 19-30). In view of the teachings by Ghabra et al., Schuermann and Shuey et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use first and second baud rates for the transmitter and sensor signals, respectively, which correspond with less data and more data, respectively, so that the second baud rate is at least two times higher than the first baud rate in a system such as taught by Ghabra et al. and Schuermann whereby said first baud rate and higher second baud rate are supported by ASK and FSK of Ghabra et al. and Schuermann as indicated by Shuey et al., so that the more data-intensive sensor signals operate at the higher baud rate allowing for proper communication as intended.

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2) Regarding claim 14, Ghabra et al. and Schuermann render obvious all of the claimed subject matter as in claim 9, plus the obviousness consideration of claim 6 further in view of Shuey et al.

### **Response To Arguments**

5. Applicant's arguments filed 6/10/05 have been fully considered but they are not persuasive.

Regarding the motivation/suggestion to modify the Ghabra et al. reference, as indicated in the rejections, Ghabra et al. did not disclose the specifics of how the 2 demodulators (FSK and ASK) perform the demodulations with respect to each other, such as whether they are processed simultaneously or one before the other, etc. that must be included in any specific implementation, while Schuermann teaches a receiver having FSK and ASK demodulators that specifically addresses such concerns. The fact that some sort of specific demodulation order or simultaneous demodulation by the 2 demodulators must be included, but yet not specified by Ghabra et al., and provided by Schuermann, shows the suggestion in Ghabra et al. to combine with a secondary reference such as Schuermann.

As further clarified in the above rejection, the "Signal Log-Detect 32" in Fig. 2a of Schuermann which is part of the FSK demodulator 58 provides an output indicating that an FSK signal is absent, in other words there isn't a discernable FSK signal, the receiver switches to demodulation using the ASK demodulator, thereby meeting the claimed feature in question, and together with Ghabra et al., meeting the claimed invention for the claims in question.

Applicant's arguments regarding the remaining claims rejected using combination of with the



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additional reference of Shuey et al. are based on the same above grounds, and therefore are similarly rebutted.

In conclusion, Applicant's arguments are not deemed persuasive in attempting to overcome the above rejection, and the above rejection is maintained.


***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963.

The examiner can normally be reached on Mon -Thu 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Benjamin C. Lee  
Primary Examiner  
Art Unit 2632

B.L.